

We claim:

1           1.       A distributed computing system comprising:  
2           a capable network environment;  
3           a plurality of remote computing devices in communication with the capable network  
4 environment; and  
5           a plurality of surrogates operating within the capable network environment;  
6           wherein each of the remote computing devices is associated with one of the surrogates  
7 and the surrogates are logically organized into groups allowing the remote devices related to the  
8 grouped surrogates to participate in an activity together.

1           2.       The distributed computing system of claim 1 wherein at least one of the  
2 surrogates is comprised of:  
3                   a software module for communicating with the remote computing device with  
4 which it is associated;  
5                   a software module for communication with the other surrogates;  
6                   a software module for calculating changes of state with respect to the activity;  
7                   a software module for calculating the state of the activity;  
8                   a software module for storing its state with respect to the activity;  
9                   a software module for capturing usage, activity and outcome; and  
10                  a software module for buffering data and later transmitting communication to its  
11 computing device;  
12           wherein each of the surrogates represents its associated remote computing device within  
13 the distributed computing application.

1           3.       The distributed computing system of claim 2 wherein the at least one of the  
2 surrogates is further comprised of a group proxy.

1           4.       The distributed computing system of claim 1 further comprising a group service  
2 operating within the network environment.

1           5.       The distributed computing system of claim 1 wherein the activity is a multi-player  
2 game and each remote computing device is a game input/output device for a game player.

1           6.       The distributed computing system of claim 1 wherein the activity is an emergency  
2 first responder support system.

1           7.       The distributed computing system of claim 1 wherein the remote computing  
2 devices are cellular telephones, personal digital assistants, communicators, dedicated game  
3 devices, personal computers, laptop computers or work stations.

1           8.       The distributed computing system of claim 1 wherein the remote computing  
2 devices are connected to the capable network environment via a wireless network, telephone  
3 network, wide area network, local area network or the Internet.

1           9.       The distributed computing system of claim 1 wherein the capable network  
2 environment is comprised of a plurality of computers interconnected via a high speed network.

1           10.      The distributed computing system of claim 9 wherein the computers are personal  
2 computers, work stations or network servers.

1           11.      A method of operating a multi-user activity comprising the steps of:  
2                   a first remote device contacting a capable network environment and requesting to  
3 participate in the activity;  
4                   the network environment instantiating a first surrogate assigned to the first remote  
5 device;  
6                   a second remote device contacting the capable network environment and  
7 requesting to participate in the activity;  
8                   the network environment instantiating a second surrogate assigned to the second  
9 remote device;  
10                  arranging the first surrogate and the second surrogate into a group; and  
11                  the first remote device and the second remote device participating in the activity  
12 together.

1           12.      The method of claim 11 further comprising the step of the first surrogate and the  
2 second surrogate registering with a group service.

1           13.     The method of claim 12 further comprising the step of the group service  
2     providing the first surrogate with a first group proxy and the second surrogate with a second  
3     group proxy.

1           14.     The method of claim 11 wherein the group is a coordinator cohort group or a peer  
2     group.

1           15.     The method of claim 11 wherein the activity is a multi-player game and each  
2     remote computing device is a game input/output device for a game player.

1           16.     The method of claim 11 wherein the activity is an emergency first responder  
2     support system.

1           17.     The method of claim 11 wherein the remote computing devices are cellular  
2     telephones, personal digital assistants, communicators, dedicated game devices, personal  
3     computers, laptop computer or work stations.

1           18.     The method of claim 11 wherein the remote computing devices are connected to  
2     the capable network environment via a wireless network, telephone network, wide area network,  
3     local area network or the Internet.

1           19.     The method of claim 11 wherein the capable network environment is comprised  
2     of a plurality of computers interconnected via a high speed network.

1           20.     The method of claim 19 wherein the computers are personal computers, work  
2     stations or network servers.

1           21.     A computer readable medium containing instruction for controlling a computer  
2 system to perform a method of operating a multi-user activity comprising the steps of:  
3                   a first remote device contacting a capable network environment and requesting to  
4 participate in the activity;  
5                   the network environment instantiating a first surrogate assigned to the first remote  
6 device;  
7                   a second remote device contacting the capable network environment and  
8 requesting to participate in the activity;  
9                   the network environment instantiating a second surrogate assigned to the second  
10 remote device;  
11                  arranging the first surrogate and the second surrogate into a group; and  
12                  the first remote device and the second remote device participating in the activity  
13 together.

1           22.     The computer readable medium of claim 21 wherein the method is further  
2 comprised of the step of the first surrogate and the second surrogate registering with a group  
3 service.

1           23.     The computer readable medium of claim 21 wherein the method is further  
2 comprised of the step of the group service providing the first surrogate with a first group proxy  
3 and the second surrogate with a second group proxy.

1           24.     The computer readable medium of claim 21 wherein the group is a coordinator  
2 cohort group or a peer group.

1           25.     The computer readable medium of claim 21 wherein the activity is a multi-player  
2 game and each remote computing device is a game input/output device for a game player.

1           26.     The computer readable medium of claim 21 wherein the activity is an emergency  
2 first responder support system.

1           27.     The computer readable medium of claim 21 wherein the remote computing  
2 devices are cellular telephones, personal digital assistants, communicators, dedicated game  
3 devices, personal computers, laptop computer or work stations.

1           28.     The computer readable medium of claim 21 wherein the remote computing  
2 devices are connected to the capable network environment via a wireless network, telephone  
3 network, wide area network, local area network or the Internet.

1           29.     The computer readable medium of claim 21 wherein the capable network  
2 environment is comprised of a plurality of computers interconnected via a high speed network.

1           30.     The computer readable medium of claim 29 wherein the computers are personal  
2 computers, work stations or network servers.

1           31.     A multiplayer gaming system for wireless telephone networks comprising:  
2                 a wireless telephone network;  
3                 a capable network environment connected to the telephone network;  
4                 a plurality of mobile devices wirelessly connected to the telephone network; and  
5                 a plurality of surrogates operating within the capable network environment;  
6                 wherein each of the remote computing devices is associated with one of the  
7 surrogates and the surrogates are logically organized into groups allowing the remote devices  
8 related to the grouped surrogate to participate in an activity together.

1           32.     The gaming system of claim 31 further comprising a plurality of group proxies  
2 associated with the surrogates.

1           33.     The gaming system of claim 31 further comprising a group service operating  
2 within the network environment.

1           34.     The gaming system of claim 31 wherein the mobile devices are cellular  
2 telephones, personal digital assistants, communicators, dedicated game devices, or laptop  
3 computers.

1           35.     The gaming system of claim 31 wherein the mobile devices are connected to the  
2 capable network environment via a wireless network, telephone network, wide area network,  
3 local area network or the Internet.

1           36.     The gaming system of claim 31 wherein the capable network environment is  
2 comprised of a plurality of computers interconnected via a high speed network.

1           37.     The gaming system of claim 36 wherein the computers are personal computers,  
2 work stations or network servers.

1           38.     The gaming system of claim 31 wherein at least one of the surrogates in the group  
2 calculates the state of the activity.

1           39.     The gaming system of claim 31 wherein at least one of the mobile devices  
2 includes a software MIDlet that performs a portion of the game functions.

1           40.     A method of operating a multi-user game comprising the steps of:  
2                   a first mobile device contacting a capable network environment and requesting to  
3 participate in the game;  
4                   the network environment instantiating a first surrogate assigned to the first mobile  
5 device;  
6                   a second mobile device contacting the capable network environment and  
7 requesting to participate in the activity;  
8                   the network environment instantiating a second surrogate assigned to the second  
9 mobile device;  
10                  arranging the first surrogate and the second surrogate into a group; and  
11                  the first mobile device and the second mobile device participating in the game  
12 together.

1           41.     The method of claim 40 further comprising the step of the first surrogate and the  
2 second surrogate registering with a group service.

1           42.     The method of claim 41 further comprising the step of the group service  
2 providing the first surrogate with a first group proxy and the second surrogate with a second  
3 group proxy.

1           43.     The method of claim 40 wherein the group is a coordinator cohort group or a peer  
2 group.

1           44.     The method of claim 40 wherein the mobile devices are cellular telephones,  
2 personal digital assistants, communicators, dedicated game devices or laptop computers.

1           45.     The method of claim 40 wherein the capable network environment is comprised  
2 of a plurality of computers interconnected via a high speed network.

1           46.     A computer readable medium containing instruction for controlling a computer  
2 system to perform a method of operating a multi-user game comprising the steps of:  
3                   a first mobile device contacting a capable network environment and requesting to  
4 participate in the game;  
5                   the network environment instantiating a first surrogate assigned to the first mobile  
6 device;  
7                   a second mobile device contacting the capable network environment and  
8 requesting to participate in the activity;  
9                   the network environment instantiating a second surrogate assigned to the second  
10 mobile device;  
11                  arranging the first surrogate and the second surrogate into a group; and  
12                  the first mobile device and the second mobile device participating in the game  
13 together.

1           47.     The computer readable medium of claim 46 wherein the method is further  
2 comprised of the step of the first surrogate and the second surrogate registering with a group  
3 service.

1           48.     The computer readable medium of claim 46 wherein the method is further  
2 comprised of the step of the group service providing the first surrogate with a first group proxy  
3 and the second surrogate with a second group proxy.

1           49.     The computer readable medium of claim 46 wherein the group is a coordinator  
2 cohort group or a peer group.

1           50.     The computer readable medium of claim 46 wherein the mobile devices are  
2 cellular telephones, personal digital assistants, communicators, dedicated game devices or laptop  
3 computers.

1           51.     The computer readable medium of claim 46 wherein the capable network  
2 environment is comprised of a plurality of computers interconnected via a high speed network.

1           52.     The computer readable medium of claim 51 wherein the computers are personal  
2     computers, work stations or network servers.